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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/851,868      | 05/09/2001  | Stanley W. Stephenson | 82633RLO            | 4959             |

7590

01/28/2004

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| EXAMINER |
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LIU, MING HUN

| ART UNIT | PAPER NUMBER |
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2675

DATE MAILED: 01/28/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/851,868

Applicant(s)

STEPHENSON ET AL.

Examiner

Ming-Hun Liu

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7-9 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Figures 7-9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,644,330 to Catchpole et al in view of US Patent 6,388,650 to Maltese.

In reference to claim 1, Catchpole describes a cholesteric liquid crystal display that resembles the one being claimed. It can be seen from Catchpole's figure 1, he describes a bistable display with a reflecting and non-reflecting state. Catchpole also teaches that a selectable pixel is defined in the intersection between the row and column electrode (column 4, lines 18-26 and figure 4). Essentially Catchpole teaches the theoretical functionality of the display and the bistable material, however does not go into detail about how to construct a voltage selection circuit to controls voltages.

The voltage selection circuit proposed by the applicant is a simple circuit that one skilled in the art could have developed.

Maltese teaches a similar invention, the driving of a bistable display (column 2, lines 27-28) with the similar voltage driving patterns as the one proposed in Catchpole (figure 4).

Maltese offers an embodiment on how to obtain the different voltage levels that anticipates the selection circuit proposed by the applicant. On column 9, lines 38-46 Maltese teaches supplying both the row and column drive circuits with a common supply voltages (lines 39-40) and later using the absolute voltages to obtain two intermediate voltages for row and column drive circuits (lines 43-45). Finally Maltese teaches that these intermediate voltages are obtained using voltage dividers (line 46).

It would have been obvious to one skilled in the art to implement Maltese's voltage selection circuit with Catchpole's invention because of the ease of implementation and also producing a lower cost circuit with the same functional performance (column 1, lines 9-10).

In reference to claim 2, Maltese teaches that these voltage dividing means can be made in connection with existing circuits (column 9, line 41).

In reference to claim 3, it is well known in the art that voltage dividing means are basic circuits that involve resistor in series. Such a limitation is obvious to one skilled in the art because of extreme conventionality.

In reference to claim 4, it is well known in the art that diodes are used to select signals, such a claim outlines the functionality of a diode commonly used in the art. Nowhere in the claim does the applicant define an innovative use for diode.

Claims 5 and 6 is rejected largely on the arguments presented in the rejection of claim 1 with the exception of the switching mechanism. Neither Catchpole nor Maltese explicitly teach a switching mechanism that regulates the change between the selectable voltages, however such

a limitation is inherent to the invention. Naturally a switching mechanism would be needed to turn a voltage source on and off as depicted in figure 5 of Catchpole.

In reference to claims 7 and 8, it can be seen from figure 5 of Catchpole that the two references are V5 and 0. In Maltese the voltages are Vs and 0 (figure 4).

Claim 9 is rejected on grounds presented in the rejection of 3.

Claim 10 is rejected on grounds presented in the rejection of 4.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Ming-Hun Liu

  
**DENNIS-DOON CHOW**  
**PRIMARY EXAMINER**